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ABSTRACT

This document is intended to interest education writers in doing stories on vocational education. It briefly reviews the history and current scene in vocational education; then outlines the research, and story ideas based on the research, of the National Center for Research in Vocational Education. The research is categorized as follows: the nature of work, education and the economy, equity in vocational education, the vocational education delivery system, and vocational education and learning. Each category lists questions for potential stories and current or completed research that will provide necessary information. Addresses and telephone numbers are provided for eight sources of information. (CML)

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National Center for Research in Vocational Education

University of California at Berkeley

Vocational Education

A Special Tip Sheet for Education Writers

Several recent reports on education have bemoaned the nation's apparent neglect of high school students who do not plan to go to college. In its two recent reports, the William T. Grant Foundation Commission on Work, Family and Citizenship termed this group "the forgotten half." Dale Parnell, the president and chief executive officer of the American Association of Community and Junior Colleges, wrote a book that termed this group "the neglected majority."

Whatever they are called, the importance of non-college-bound youth in current educational policy discussions is growing. And, as a consequence, vocational education is also receiving renewed attention.

An analysis done for the Grant Foundation Commission estimated that the number of youths aged 15-24 will fall from 43 million to 34 million between 1980 and 1996. This decline has profound implications for American businesses striving to hire workers. As the size of this segment of the labor pool shrinks, it will also become increasingly nonwhite, with blacks and Latinos making up a greater portion of the nation's cohort of young adults.

This, too, worries employers, because Latino and black young adults are more likely than whites to leave school unprepared for on-the-job success. Some analysts suggest that, rather than hiring underskilled workers or paying what appears to be an ever-mounting bill for training, business will simply outsource work to Third World countries. Such an event would deal a dual blow to the United States by denying jobs to American workers and by forgoing an opportunity to bring minorities into the mainstream of the American economy.

At the same time that a shortage of skilled labor looms, the job market is demanding that workers possess greater technical, analytical, and interpersonal skills. Yet, since 1983, most educational reform efforts have focused on college-bound students. When this focus has been questioned, the leading reform theorists have commonly responded that all students need to be well versed in a new, more demanding set of basics. Theoretically, job skills would be taught on the job, building on basic skills taught in the classroom.

Now, however, researchers are taking a closer look at the linkage between the classroom and the world of work. Emerging research in cognition, for example, suggests that on-the-job learning is more complex than previously thought. In addition, the nature of classroom instruction can affect how rapidly workers learn when they begin working. Such research seems likely to change the nature of vocational education.

Vocational education has been reexamined and reformulated almost from its initiation in 1917, even more frequently in recent years than in the past. The current wave of interest in vocational education is in part a reaction to the current reauthorization process for the Carl D. Perkins Vocational Education Act.

Some of the criticisms heard in the past about vocational education are: the tendency to segregate poor and minority youths into an educational track that offers diminished access to high-status, high-pay careers—a violation of equal educational opportunity goals; the lack of fit between the skills training offered in vocational education programs and the needs of a rapidly changing economy; the narrowness of the instruction and the lack of economic payoff for the most of it; and the failure of the programs to stem the dropout problem or to increase employment and employability of a sizable segment of the youth population, largely minority and poor.

Several new factors are affecting vocational education today that, if not all new, are qualitatively different from earlier social and economic changes:

- The needs of the U.S. economy for a technologically sophisticated workforce to compete in a global economy that relies heavily on communication technologies.
- The changing composition of the work force, which increasingly will be comprised of individuals for whom current vocational education approaches have not been successful.

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- The current wave of educational reform and its effects on enrollments in vocational education.
- New research findings from cognitive science on how people learn in and out of schools.

In the past, vocational education has been viewed as a charitable endeavor, an undertaking whose aim was to enable the poor to eventually support themselves. As a charitable program, vocational education often was considered ancillary to schools' central mission of providing a liberal education. This neglect of vocational education also has to do with the philosophical dualism that distinguishes "training"—which vocational education has been thought to be—from education.

For the most part, education writers have also neglected vocational education. Except for the occasional feature on a regional vocational program or on a particularly successful trade school, vocational education has not been subjected to the same rigorous analysis and close scrutiny as have other segments of the curriculum. In one sense, all education is vocational education. But some educational strands have been deemed more equal than others.

When reauthorization of the $981-million Perkins Act was being discussed in Congress last spring, for example, it was reported that 13 percent of the act's funds targeted for handicapped students and 17 percent of the act's funds targeted for disadvantaged students were never spent, because of the restrictions the act placed on local school districts. That means that nearly one in five dollars aimed at providing vocational assistance to the most disadvantaged youths was instead returned to the federal government. Yet that was not reported until well after the fact.

Reporters have not analyzed whether local machine tools programs have access to up-to-date equipment with anywhere near the same frequency as they have examined the quality of textbooks for the general curriculum. Although there has been great attention paid to issues of segregation and integration during the past three decades, little effort has gone into looking at the de facto segregation that occurs within many schools' vocational education programs. Vocational education's strengths—for example, the positive effect of teaching reading or English as a second language within the context of a hands-on trade—have also not been adequately explored.

The National Center for Research in Vocational Education has funded a broad agenda of research that addresses a number of these issues. For reporters, this research provides a hook to begin examining vocational education in new ways.

What follows is a guided tour through some of this research, with suggestions as to how education writers might use the research findings as a starting point for paying greater attention to vocational education.

A central aim of the National Center for Research in Vocational Education, now headquartered at the University of California at Berkeley and including subcontracts with five additional research institutions, is to integrate vocational education and educators with general educational theory and practice. The center's research is also aimed at helping vocational education anticipate future changes so it can shape debates over the role of education rather than merely react to them.

The research, and story ideas arising from it, falls into the broad categories outlined below.

The Nature of Work

Questions

1. Examine the match between vocational education programs and the regional or statewide job market. Are vocational programs up-to-date and able to prepare their students for real jobs that currently exist?

2. How is technology changing the nature of work, and are vocational education programs adjusting to those changes? Although some analysts thought that computers would cause work to be deskilled, because complexities would be turned over to machines, something very different has happened in most industries. In fact, competitive pressure is forcing workers to be more adaptable and to have a broader range of technical and interpersonal skills.

3. The need for adaptability means that workers must be able to learn on the job. How are vocational education programs addressing this issue? Are they still focused on training students to perform narrow, low-level skills? Or do the programs use the substance of the tasks being taught to teach a broader range of skills, including improving reading comprehension and other analytical skills.

Research

"Changes in the Nature and Structure of Work: Implications for Skills and Skill Formation." Thomas Bailey, Teachers College, Columbia University. (Product MDS-007)*

"Reforming Education for Work: A Cognitive Science Perspective." Senta A. Raizen, Teachers College, Columbia University. (Product MDS-024)

Education and the Economy

Questions

1. Educational institutions, particularly community colleges and regional technical schools, often use their programs to lure industry to an area. But new research is showing that, at least in some cases, the costs of providing such training are too high relative to the benefit that accrues either to the individual worker or the area's economy. This research also suggests that the aim of some of these schemes is to steal jobs from other regions. In a macroeconomic sense, that is a flawed public policy; the goal instead should be to create new jobs. Perhaps with the help of business reporters, examine local efforts to attract industry. Do the economic benefits calculated by such programs add up?

2. A number of states are attempting to regulate student labor. Policy makers reason that students who work too much neglect their studies and improve their short-term cash flow at the expense of their long-term educational and professional prospects. At the same time, policy makers are neglecting the work-experience programs in schools that would enhance the educational content of student work and would integrate work with school. This is true even though emerging research indicates that on-the-job experiences that require learning enhance the individual's ability to learn at work later in life. Are local school districts encouraging work-experience programs? Are they using such programs to link the classroom with the job site, to build on the instructional capacity of both?

3. An emerging limit to economic growth is a lack of skilled workers, even for relatively low-level jobs. Joint reporting by the business page staff and education writers could examine local efforts by schools and businesses to address this issue by increasing the fit between the classroom and the job.

Research

"The New Limits to Growth: Economic Transformation and Occupational Education." Roger J. Vaughan. (Product MDS-016)

"Separating the Wheat from the Chaff: The Role of Vocational Education in Economic Development." W. Norton Grubb and David Stern, University of California at Berkeley. (Product MDS-040)

"Re-examining Policy Toward Work Experience for School-Age Children and Youth." David Stern et al. (Contact David Stern, University of California at Berkeley)

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* To obtain research reports cited with MDS numbers, contact the center's Materials Distribution Service listed in the "Sources" section at the end of this tip sheet.

Equity in Vocational Education

Questions

1. Recent longitudinal study data suggest that access to vocational education for handicapped students has improved, that disadvantaged and poor students continue to be significantly over represented, and that limited-English-proficient students have very limited access. For those who do complete programs, the labor force participation and earnings data appear quite favorable when compared to special population students in the general educational track. What are school districts in your area doing to address these issues, if anything?

2. Until recently, there has been little vocational education offered to pregnant and parenting teenagers. For the most part, schools concentrate on teaching this group of students parenting skills. This approach fails to recognize that these mothers are, most frequently, going to be their own sole financial support. Title II of the Perkins Act requires that some money be spent to provide special populations, including single parents and individuals whose participation would break down traditional sex biases, with marketable skills. How are local school districts spending these Perkins Act funds? Are they offering pregnant or parenting teens adequate job skills training?

3. One reason for the low status conferred on vocational education is that these programs are often designed as merely an adjunct to industry. Although on-the-job skills should be an important component of vocational education, such programs must go beyond narrow skill training in order to overcome this second-class status. Unless vocational education can gain a full measure of respect among other educators, it will never be able to command the attention it needs to accomplish its goals. Analyze the curriculum of the vocational education programs in local schools. Is it narrowly skill based? Does it use vocational skills as a springboard for teaching broader literacy skills?

4. Students often are tracked into vocational education because their basic skills are weak. Yet, only 3 percent of the classroom time in the average vocational education class is devoted to basic skills. This is true even though research has shown that job-related reading development occurs far more rapidly than non-job-related reading development. And this is true even though studies have shown that, on the whole, vocational education students are aware of their academic shortcomings and are highly motivated to overcome them. Moreover, studies show that those whose basic skills are the weakest are the most likely to be tracked into the narrowest programs within vocational education, those that require the least in terms of basic literacy skills.

Research

"Vocational Education in the Context of School-Based Programs for Pregnant and Parenting Students." Gail L. Zellman, the RAND Corporation. (Contact Zellman at the RAND Corporation)

"Equitable Opportunity in Vocational Education for Students Needing Literacy Instruction." Fran Lehr, University of Illinois. (Contact Allen Phelps, University of Illinois)

"Philosophy, Equity and Vocational Education." Walter Feinberg and Benjamin Horowitz, University of Illinois. (Contact Allen Phelps, University of Illinois)

"Vocational Education and Training: The System and the Policy Instruments." W. Norton Grubb and Lorraine M. McDonnell. (Contact W. Norton Grubb, University of California at Berkeley)

The Vocational Education Delivery System

Questions

1. Some school districts are attempting to narrow the vast gulf often found between academic and vocational programs of study by creating academies based on a profession, such as health careers or technology or agriculture. Using the subject matter as the school's foundation, courses can be taught at a wide range of levels and can utilize the field's specialized subject matter to teach a broad range of academic skills. Typically these

vocationally based academies are oversubscribed, and students are enthusiastic about the opportunity to attend them. If local school districts have such a program, analyze whether it is meeting expectations. Or if a local district is considering such a program, report on how similar programs elsewhere have performed.

2. Preparation of vocational teachers. Vocational teachers have always enjoyed the option of utilizing alternate routes into the classroom. Skilled craftsmen or women with years of job experience, in most states, are able to become teachers by participating in a shortened program of methodological training. In your state, given all the attention being paid to academic teachers and the quality of their preparation, is anything being done to ensure that vocational education teachers are effective? How do vocational education teachers themselves feel about their preparation? Are they comfortable with the induction process? Are there pedagogical skills that they feel a need to learn?

3. At the very time that many analysts are concluding that vocational instruction offers a way to focus on employability and human capital formation issues, the educational reform movement is cutting into the time available for vocational education. One analysis found that enrollment in vocational courses dropped 20 percent in California in recent years. Is this happening in your state or city? What are the side effects from such a shift? An increased dropout rate? A bloated general track that is but a watered-down version of college prep?

Research

"Exemplary Urban Career-Oriented Secondary School Programs." Vernay Mitchell, Ellen S. Russell, and Charles Benson. (Product MDS-012)

"Vocational Education and Training: The System and the Policy Instruments." W. Norton Grubb and Lorraine M. McDonnell. (Contact W. Norton Grubb, University of California at Berkeley)

"State Education Reform Policies and Their Effect on Vocational Teacher Education." Richard L. Lynch, Virginia Tech. (Contact Lynch at Virginia Tech)

"On Becoming a Teacher: Vocational Education and the Induction Process." William G. Camp and Betty Heath, Virginia Tech. (Product MDS-018)

Vocational Education and Learning

Questions

1. Recent cognitive and anthropological research has documented that people learn differently on the job and through experience than they do in formal school settings. New research into how people learn should transform not only vocational education but also the academic and general studies tracks.

2. Cognitive science is providing a fresh analytical framework for looking at vocational education. What is the relationship between basic skills, or literacy in reading or in arithmetic, and knowledge in a specific domain, such as carpentry or welding? Are local educators considering these questions and shaping vocational education programs in response?

3. Apprenticeships, combined with instruction in classrooms in which the power relationships, duties, and expectations are similar to those found on the job, provide the greatest possibility for maximizing the potential of vocational education instruction. Are your local school districts attempting to set up apprenticeships? Are they working to structure vocational education classrooms in ways similar to the workplace?

Research

"Reforming Education for Work: A Cognitive Science Perspective." Senta A. Raizen, Teachers College, Columbia University. (Product MDS-024)

Sources

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